

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 1-9 and 11-22 are pending in this application. Claim 10 is canceled by the present response without prejudice. Claims 1-3, 5-9, and 15 were rejected under 35 U.S.C. § 102(e) as anticipated by U.S. patent 6,445,483 to Takada et al. (herein “Takada”). Claim 4 was rejected under 35 U.S.C. § 103(a) as unpatentable over Takada. Claims 10, 12, 14, and 16 were rejected under 35 U.S.C. § 103(a) as unpatentable over Takada in view of U.S. patent 6,046,835 to Yamawaki et al. (herein “Yamawaki”). Claims 11 and 13 were rejected under 35 U.S.C. § 103(a) as unpatentable over Takada in view of U.S. patent 6,130,768 to Ono. Claims 17, 18, 20, and 22 were rejected under 35 U.S.C. § 103(a) as unpatentable over Takada in view of Yamawaki as applied to claims 1, 14, and 16, and further in view of U.S. patent 5,305,022 to Ota et al. (herein “Ota”). Claims 19 and 21 were rejected under 35 U.S.C. § 103(a) as unpatentable over Takada in view of Ota.

Addressing each of the above-noted rejections, those rejections are traversed by the present response.

Initially, applicants note independent claim 1 is amended by the present response to incorporate limitations from dependent claim 10, with additional limitations of the condition (2) satisfying $0.93 \leq \beta_h / \beta_2 \leq 1.07$. That is, amended independent claim 1 now recites a more narrow range of scope for the above-noted condition (2).

First, applicants respectfully submit the features recited in amended independent claim 1 to the more narrow scope for the condition (2) are fully supported by the original specification. More particularly, the original specification at page 24, lines 4-5 states “[m]ore preferably, it is equal to or smaller than 7%”, in referring to “the change of lateral magnification in the sub-scanning direction”. From that statement it is clear that $1 - 0.7 =$

0.93, and $1 + 0.07 = 1.07$. That range of between 0.93 and 1.07 is now reflected in amended independent claim 1, and thus is believed to be fully supported by the original specification.

Further, amended independent claim 1 also clarifies other language from previously pending dependent claim 10, to recite “two lens surfaces such that a curvature in a sub-scanning direction varies in main scanning direction are formed in different lenses”.

Such subject matter is also believed to be fully supported by the specification for example at page 28, lines 12-15. That portion of the specification states “Therefore, the at least two surfaces have an air separation therebetween as described above, so that the surface separation between these two lens surfaces is larger in the scanning optical system”. That is, as noted in that portion in the specification air may be preferably inserted between the curvature change surfaces, which indicates that the two curvature change surfaces can be formed in different lenses, as now clarified in amended independent claim 1.

With the claimed lens structure as recited in amended independent claim 1, lateral magnification in a sub-scanning direction of an optical system can be corrected to be uniform without regard to an image height, as discussed for example in the present specification at page 21, lines 12-15; that portion of the specification specifically states the scanning optical system “mak[es] a correction such that the lateral magnification in the sub-scanning direction of the scanning optical system becomes uniform whatever the image height is”.

Applicants respectfully submit independent claim 1 as currently written distinguishes over the applied art.

With respect to features recited in previously pending dependent claim 10, which is similar in scope to amended independent claim 1, although independent claim 1 is amended as noted above to recite a more narrow range of the noted condition, the outstanding rejection relied upon the combination of teachings of Takada in view of Yamawaki. Specifically, the outstanding rejection relied upon Yamawaki to disclose that “the ratio between the lateral

magnifications in the sub-scanning direction at respective on-axis and off-axis is set at 1.0 and can be increased by 8%, a range that clearly meets the claimed condition (see table 2 and associated discussions)".¹

In response to that basis for the outstanding rejection applicants note that lateral magnification in the sub-scanning direction is equal to or smaller than 7%, i.e. in the noted condition in amended independent claim 1 the noted ratio is below 1.07. Such a feature is believed to clearly distinguish over the relied upon teachings in Yamawaki noted above, which at most indicates an increase by 8%, which is outside of the currently claimed range.

Moreover, Yamawaki states that with the arrangement disclosed therein, "in this embodiment, the sub-scanning-direction lateral magnification changes (increases) in accordance with the distance away from the on-axis (optical axis) to the off-axis position in the main scanning direction".² Thus, the object of Yamawaki is that at least two increasing lateral magnifications of sub-scanning direction of a scanning optical system are outward from an axis. In such ways, such an object as in Yamawaki clearly differs from that in the claimed invention.

Further, applicants respectfully submit Yamawaki also does not disclose the further feature clarified in claim 1 of the two curvature change surfaces being formed in different lenses.

In such ways, applicants respectfully submit no teachings in Yamawaki overcomes the recognized deficiencies of Takada with respect to features now recited in amended independent claim 1, and the claims dependent therefrom.

Further, no teachings in the further cited references to Ono or Ota were cited with respect to the above-noted features, nor are any teachings in Ono or Ota believed to overcome the above-noted deficiencies of Takada in view of Yamawaki.

¹ Office Action of April 26, 2005, the sentence bridging pages 5 and 6.

² Yamawaki at column 4, lines 5-9.

In view of these foregoing comments, applicants respectfully submit amended independent claim 1, and the claims dependent therefrom, patentably distinguish over the applied art.

As no other issues are pending in this application it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

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